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### ABSTRACT

A method of color mixing with arc stability and arc straightening of HID lamps operated at high frequencies which modulates a duty cycle of a half bridge configured resonant inverter at a frequency which is substantially one-half the frequency of a ~~frequency~~ of a second longitudinal acoustic mode of the HID lamp. The method also sweeps the switching frequency in a high frequency range of such resonant inverter. The duty cycle modulation effectuates power modulation to create a fixed frequency power component which is substantially equal to the frequency of the second longitudinal acoustic mode. The sweeping switching frequency of the half bridge configured resonant inverter drives the HID lamp in a manner which effectuates arc stability and arc straightening.